

# **Harnessing “Big Data” to Stop HIV**

**July 13-14, 2015**

**NIAID, NIH**

**5601 Fishers Lane - Rockville, MD**

## **Meeting Objectives**

- Identify types and sources of data that can be used to optimize HIV treatment and prevention strategies
- Consider ethical challenges to using “big data” sources
- Examine methods for collecting, integrating, and analyzing large databases and how they can be optimized for HIV epidemiology, treatment, and prevention
- Generate recommendations for advancing the use of large data sources to develop increasingly effective HIV treatment and prevention strategies

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12:00 pm                      Opening Remarks and Welcome  
*Dr. Carl Dieffenbach – Director, Division of AIDS/NIAID*

12:10                          Introduction: Why “Big Data,” why now?  
*Dr. Carolyn Williams – Chief, Division of AIDS Epidemiology Branch*

12:15                          Overview of Consultation  
*Dr. David Burns - Chief, Division of AIDS Clinical Prevention Research Branch*

## **I. Big Data and the Public Interest**

***Moderator: Dr. Jennie Larkin - Senior Advisor, NIH Office of the Associate Director for Data Science***

12:30 -1:00    Big Data, Big Opportunities...and Challenges  
*Dr. Daniel Masys*

1:00-1:20      Sources and Use for Public Health Priorities  
*Dr. Neil Abernethy*

1:20 -1:40      Commercial Use of Big Data in the Public Interest  
*Dr. Matt Moss*

1:40 – 2:00    Twitter & Social Media in Public Health Research  
*Dr. Ming-Hsiang Tsou*

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2:00 – 2:20 Causal Inferences from Big Data

*Dr. Miguel Hernan*

2:20 – 2:40 EOS: Large-Scale, Data-Intensive Warning for Forced Migration

*Dr. Jeffrey Collmann*

2:40 – 3:00 Questions and Discussion

3:00 - 3:20 Break

## **II. Ethical Challenges to Using Big Data**

***Moderator: Dr. Liza Dawson – Team Leader, Division of AIDS***

3:20 – 3:40 Current research oversight systems and big data research

*Dr. Jeffrey Kahn*

3:40 – 4:00 Use of Big Data for Public Health Objectives: contextual approach to privacy

*Dr. Helen Nissenbaum*

4:00 – 4:20 Social implications of big data research

*Dr. Kate Crawford*

4:20 – 4:40 Big data: benefits and risks

*Dr. Solon Barocas*

4:40– 5:10 **Panel Discussion: Addressing Ethical Challenges**

*Drs. Nissenbaum, Crawford, Barocas, Kahn, Collmann, James Grimmelman*

5:10 – 5:30 Wrap-Up of Discussions from Day 1

*Dr. David Burns, Division of AIDS*

## **Networking Event**

**Hosted by the Bill and Melinda Gates Foundation**

**6:30 pm – 8 pm - Location TBD**

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8:45 am

Welcome & Overview of Day 2

*Rosemary McKaig - Epidemiologist & Program Officer, Division of AIDS*

## **III. Methods for Big Data Collection and Analysis**

***Moderator: Dr. Victor DeGruttola***

9:00 – 9:20

Statistical Approaches to Protecting Confidentiality When Sharing Potentially Identifiable Data

*Dr. Jerry Reiter*

9:20 - 9:40

“Black Box” Approach to Incorporating Data from Multiple Sources in a Single Agreed Upon Analysis

*Dr. J.C. Smart*

9:40 – 10:00

Electronic traces and public health

*Dr. Dolores Albarracin*

10:00 - 10:20

**Break**

10:20 – 10:40

Creating synthetic information to make effective use of Big Data

*Dr. Stephen Eubank*

10:40 – 11:00

Network Research Methods

*Dr. Martina Morris*

11:00 – 11:20

Inference in a world with Missing Data

*Dr. Stephen Cole*

11:20 – 11:40

Modeling complex epidemiological and genetic data: Identification and estimation of key epidemic drivers

*Dr. Christophe Fraser*

11:40 – 12:00 pm

**Panel: Methodology - Challenges & Solutions**

*Drs. Albarracin, Cole, Eubank, Fraser, Morris, Reiter, and Smart*

12:00 – 12:30

**Open Discussion**

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**12:30 – 1:30      Lunch (on your own)**

#### IV. Harnessing “Big Data” to Stop HIV: Research Priorities

## Break Out Sessions: 1:30 - 2:45

MSM *Drs. Patrick Sullivan and Christian Grov*

Women and Girls *Drs. Ada Adimora and Audrey Pettifor*

Treatment & Prevention Continuum *Drs. Wafaa El-Sadr & Susan Buchbinder*

Early HIV Infection & Persons Unaware of Their HIV+ Status      *Drs. Myron Cohen and Susan Little*

Ethical, legal and policy issues *Drs. Jeffrey Kahn and Helen Nissenbaum*

2:45 – 3:00 Break

## V. Reports from Break Out Sessions

3:00 – 3:15 MSM

3:15 – 3:30 Women and Girls

3:30 - 3:45 HIV Treatment &amp; Prevention Continuum

### 3:45 - 4:00 Early Infection & Persons Unaware of Their HIV+ Status

4:00 – 4:15 Ethical, legal and policy issues

4:15 – 5:00 Panel: Research Priorities *Moderators and Rapporteurs*

5:00      Wrap-Up and Acknowledgements  
*Drs. David Burns and Carolyn Williams, Division of AIDS*